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## Autophagy, FOXO1 and proteostasis

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## **STELLINGEN** *behorende bij het proefschrift*

### *Autophagy, FOXO1 and proteostasis: implication for human diseases*

#### **Jing Yang**

1, Autophagy is a 'self-eating' process during which unnecessary or dysfunctional cellular components are digested by the lysosomal machinery. Whilst autophagy is implied in the both metabolic and protein homeostasis to ensure the cellular integrity, its clinical applications are far away from being explicit, because its activity is at the Yin-Yang of cell survival and cell death.

2, The Forkhead box protein O1 (FOXO1) plays an intricate role in the maintenance of protein homeostasis, by both a transcriptional upregulation of small heat shock proteins and the immunoproteasome as a first line of defense and a boosting of the autophagic flux as a bulky and less selective secondary line of defense (this thesis), which underlays its strong effects on chronological aging process (C.T. Murphy et al. *Nature*, 2003, 424 (6946): p:277-283).

3, FOXOs and HSF1 work independently to protect organisms against proteotoxic stresses and chronological aging, but both have (distinct) sets of HSPs as executors of their effects (A.L. Hsu et al. *Science*, 2003, 300 (5622), p:1142-1145), underscoring the functional role of HSPs in stress resistance and aging.

4, Nowadays, technical developments have allowed high-throughput assays to be commonly used to generate massive amounts of data, but it is not often realized that the analysis of these data is a piece of art.

5, You can do many experiments within 4 years as PhD student, but it is better to keep in mind what is your burning question.

6, Science should not merely be a process of satisfying curiosity, but (also) aimed at applying newly acquired knowledge to practical life.

7, It is not enough to be industrious, so are the ants. What are you industrious for? (H. D. Thoreau, Letter to H. Blake, 1857).

8, You have to believe in yourself. That's the secret of success. (C. Chaplin)

9, 塞翁失马焉知非福。 A loss may turn out to be a gain.